

CLAIMS

1. A method for preparation of high concentrated nanometer size fine particles of organic pigment comprising, after dissolving organic pigment into organic solvent containing at least 50 volume % of amide solvent, pouring the obtained pigment solution into solution, which is compatible with said solvent and is poor solvent to the pigment, by vigorously stirring.

2. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 1, wherein the organic pigment is azo pigment, phthalocyanine pigment, quinacridone pigment isoindolinone pigment, cyanine pigment, merocyanine pigment, fullerene pigment, polycyclic aromatic compound or polydiacetylene pigment.

3. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 2, wherein the organic pigment is phthalocyanine pigment or quinacridone pigment.

4. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 3, wherein the amide solvent is at least the one selected from the group consisting of 1-methyl-2-pyrrolidinone, 1,3-dimethyl-2-imidazolidinone, 2-pyrrolidinone, ϵ -caprolactam, formamide, N-methylformamide, N,N-dimethylformamide, acetoamide, N-methylacetoamide, N,N-dimethylacetoamide, N-methylpropaneamide and hexamethylphosphotriamide.

5. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 1, wherein the amide solvent is at least the one selected from the group consisting of 1-methyl-2-pyrrolidinone, 1,3-dimethyl-2-imidazolidinone, 2-pyrrolidinone, ϵ -caprolactam, formamide, N-methylformamide, N,N-dimethylformamide, acetoamide, N-methylacetoamide, N,N-dimethylacetoamide, N-methylpropaneamide and hexamethylphosphotriamide.

5. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 2, wherein the amide solvent is at least the one selected from the group consisting of 1-methyl-2-pyrrolidinone, 1,3-dimethyl-2-imidazolidinone, 2-pyrrolidinone, ϵ -caprolactam, formamide, N-methylformamide, N,N-dimethylformamide, acetoamide, N-methylacetoamide, N,N-dimethylacetoamide, N-methylpropaneamide

and hexamethylphosphotriamide.

6. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 1, wherein poor solvent is water, alcohol solvents, ketone solvents, ether solvents, aromatic solvents, carbon disulfide, aliphatic solvents, nitrile solvents, sulfoxide solvents, halide solvents, ester solvents, ionic solution or mixed solution consisting of these two or more solvents.

7. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 2, wherein poor solvent solvent is water, alcohol solvents, ketone solvents, ether solvents, aromatic solvents, carbon disulfide, aliphatic solvents, nitrile solvents, sulfoxide solvents, halide solvents, ester solvents, ionic solution or mixed solution consisting of these two or more solvents.

8. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 3, wherein poor solvent solvent is water, alcohol solvents, ketone solvents, ether solvents, aromatic solvents, carbon disulfide, aliphatic solvents, nitrile solvents, sulfoxide solvents, halide solvents, ester solvents, ionic solution or mixed solution consisting of these two or more solvents.

9. The method for preparation of high concentrated nanometer size fine particles of organic pigment of claim 4, wherein poor solvent solvent is water, alcohol solvents, ketone solvents, ether solvents, aromatic solvents, carbon disulfide, aliphatic solvents, nitrile solvents, sulfoxide solvents, halide solvents, ester solvents, ionic solution or mixed solution consisting of these two or more solvents.

10. The method for preparation of nanometer size fine particles of organic pigment of claim 9, using solvent consisting of at least the one selected from the group consisting of 1-methyl-2-pyrrolidinone, 2-pyrrolidinone or 1,3-dimethyl-2-imidazolidinone or a mixed organic solvent containing said solvents more than 50 volume% as a solvent for the organic solvent, and using water and/or alcoholic solvent as a poor solvent.

10. The method for preparation of nanometer size fine particles of organic pigment of claim 3, using solvent consisting of at least the one selected from the group consisting of 1-methyl-2-pyrrolidinone, 2-pyrrolidinone or 1,3-dimethyl-2-imidazolidinone or a mixed organic solvent containing said solvents more than 50 volume% as a solvent for the organic

solvent, and using water and/or alcoholic solvent as a poor solvent.

11. The method for preparation of nanometer size fine particles of claim 1 comprising, carrying out the preparation of solution by dissolving an organic pigment by the condition from heating at around maximum boiling point under atmospheric pressure to heating under supercritical state, then pouring the prepared high concentrated organic pigment solution of 0.5mmol/L to 100mmol/L into a poor solvent of the lowest temperature of liquid state.

12. The method for preparation of nanometer size fine particles of claim 2 comprising, carrying out the preparation of solution by dissolving an organic pigment by the condition from heating at around maximum boiling point under atmospheric pressure to heating under supercritical state, then pouring the prepared high concentrated organic pigment solution of 0.5mmol/L to 100mmol/L into a poor solvent of the lowest temperature of liquid state.

13. The method for preparation of nanometer size fine particles of claim 3 comprising, carrying out the preparation of solution by dissolving an organic pigment by the condition from heating at around maximum boiling point under atmospheric pressure to heating under supercritical state, then pouring the prepared high concentrated organic pigment solution of 0.5mmol/L to 100mmol/L into a poor solvent of the lowest temperature of liquid state.

14. The method for preparation of nanometer size fine particles of claim 4 comprising, carrying out the preparation of solution by dissolving an organic pigment by the condition from heating at around maximum boiling point under atmospheric pressure to heating under supercritical state, then pouring the prepared high concentrated organic pigment solution of 0.5mmol/L to 100mmol/L into a poor solvent of the lowest temperature of liquid state.

15. The method for preparation of nanometer size fine particles of claim 4 comprising, carrying out the preparation of solution by dissolving an organic pigment by the condition from heating at around maximum boiling point under atmospheric pressure to heating under supercritical state, then pouring the prepared high concentrated organic pigment solution of 0.5mmol/L to 100mmol/L into a poor solvent of the lowest temperature of liquid state.

16. The method for preparation of nanometer size fine particles of claim 5 comprising, carrying out the preparation of solution by dissolving an organic pigment by the condition from heating at around maximum boiling point under atmospheric pressure to heating under supercritical state, then pouring the prepared high concentrated organic pigment solution of 0.5mmol/L to 100mmol/L into a poor solvent of the lowest temperature of liquid state.